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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/428,982	10/28/1999	DAVID C. ORLOWSKI	P3091	5377

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EXAMINER

PATEL, VISHAL A

ART UNIT PAPER NUMBER

3673

DATE MAILED: 10/20/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/428,982

Applicant(s)

ORLOWSKI ET AL.

Examiner

Vishal Patel

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 05 September 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 35-57 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 35-57 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____.

DETAILED ACTION

Drawings

1. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the “the exterior channel is formed by opposing grooves within the stator and the rotor” must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as “amended.” If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either “Replacement Sheet” or “New Sheet” pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it

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pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

3. Claim 37 is rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter, which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

The limitations "means" in claim 37 is not described in the original specification, drawings and claims.

The limitation "the exterior channel is formed by opposing grooves within the stator and the rotor" in claim 40 is not described in the original specification, drawings and claims

Claim Rejections - 35 USC § 112

4. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Applicant has numerous of the errors of antecedent basis examples as shown below:

Claim 36 recites the limitation "said stator exterior end face" in line 6. There is insufficient antecedent basis for this limitation in the claim. For examination purpose this is considered to be the end face of the stator.

In claim 36, line 11, "an end face", is this end face of the rotor the same as the one claimed in claim 35? For examination purpose this is considered to be the end face as claimed in claim 35.

Please review all claims for these errors.

Claim Rejections - 35 USC § 102

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

6. Claims 35-43 are rejected under 35 U.S.C. 102(b) as being anticipated by Orlowski (US. 5,221,095).

Orlowski discloses a seal fixed between a housing and a rotating shaft comprising: a stator (stator 20) fixed and sealingly mounted to the housing and concentrically about the shaft, the stator having opposite end faces (first end face having a projection 84 extend thereof and second end face that is opposite the first end face), an exterior peripheral surface (outer surface of 20) and an interior peripheral surface (inner surface of 20), a first annular groove (groove 30) formed in the stator and extending axially between the end faces and positioned intermediate the exterior and interior peripheral surfaces, the first annular groove communicates directly with the shaft and is operable to collect fluid material separated from the shaft, at least one axial slot (slot 36) formed in the interior peripheral surface of the stator and the at least one axial slot communicates with the first annular groove in the stator for draining fluid material collected in the first annular groove into the housing (column 3, line 62-63).

Regarding claim 36: The seal having a rotor (22) sealingly mounted to the shaft for rotation therewith and having opposite end faces (first end face orthogonal to an axis of rotation of the shaft and adjacent to 42 and second end face opposite the first end face), an exterior peripheral surface (outer surface of 22) and an interior peripheral surface (inner surface of 22), a

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second annular groove (groove 96) formed in the end face of the stator and extending axially from the end face, the second annular groove located intermediate the stator exterior and interior peripheral surfaces (see figures), a rotor annular flange (flange that is received in the second groove) formed in the rotor, the rotor annular flange extending axially from the end face of the rotor and positioned intermediate to the rotor exterior and interior peripheral surfaces (the flange extends axially from the end face and intermediate the exterior and interior peripheral surfaces), the rotor annular flange is received within the second annular groove in the stator (see figures), an exterior annular channel (82) formed by engagement of the rotor and the stator for collecting contaminants entering the seal, an external drain (drain 100) extending from the exterior annular channel to the exterior of the housing to expel contaminants from the exterior annular channel.

Regarding claim 37: The rotor includes means (groove where projection 84 is retained in) for imparting energy to contaminants entering the exterior annular channel for expulsion from the seal.

Regarding claim 38: The exterior annular channel is positioned within the rotor extending axially from one end face intermediate the exterior and interior peripheral surfaces of the rotor (see figures)

Regarding claim 39: The exterior annular channel is positioned within the stator extending axially from one end face intermediate the exterior and interior peripheral surfaces of the stator (see figures).

Regarding claim 40: The exterior annular channel is formed by opposing grooves (grooves 80 and 82) within the stator and the rotor, the opposing grooves extend axially from one end face intermediate the exterior and interior peripheral surfaces of the stator and the rotor.

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Regarding claim 41: The stator and the rotor are unitized by a unitizing ring (60), the unitizing ring seats in a stator unitizing ring groove (groove 62) **when** the shaft is not rotating thereby sealing the interior of the seal from the exterior of the seal, the unitizing ring rotates with the rotor and the unitizing ring expands during rotation so that the unitizing ring seats in a rotor unitizing ring groove (groove 64).

Regarding claim 42: The unitizing ring operates with no clearance between the rotor unitizing ring groove or the stator unitizing ring groove **when** the shaft rotates (intended use given little patentable weight but figures show this).

Regarding claim 43: The bottom of the axial slot is formed at an angle with respect to the shaft (see column 3, lines 62-64).

Claim Rejections - 35 USC § 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. Claim 44 rejected under 35 U.S.C. 103(a) as being unpatentable over Orlowski.

Orlowski discloses the claimed invention except the clearance between the stator and the shaft is 0.05 inches for each inch of shaft diameter. Discovering an optimum value of a result effective variable involves only routine skill in the art. In re Boesch, 617 F.2d 272, 205 USPQ 215 (CCPA 1980). Without the showing of some unexpected result. Since applicant has not shown some unexpected result the inclusion of this limitation is considered to be a matter of choice in design. It would have been obvious to one having ordinary skill in the art at the time

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the invention was made to have the clearance between the stator and the shaft be 0.05 inches for each inch of shaft diameter, to provide mechanical expedience and as a matter of design choice.

9. Claims 45-55 and 57 are rejected under 35 U.S.C. 103(a) as being unpatentable over Orlowski as applied to claim 35 above, and further in view of Fedorovich et al (US. 5,431,414).

Orlowski discloses the invention substantially as claimed above but fails to disclose that the at least one axial slots is now plurality of axial slots, the circumferential periphery of the first annular groove in the stator bisects each individual slot of the plurality of the axial slots and adjacent axial slots are spaced so that a line connecting the center of one axial slot to the center of the adjacent axial slot does not intersect the interface between the stator and the shaft.

Fedorovich discloses a stator having plurality of first annular grooves (grooves 34 and 36), at least one axial slot (figure 1) and plurality of axial slots (figure 8). It would have been obvious to one having ordinary skill in the art at the time the invention was made to configure the stator of Orlowski to have plurality axial slots and plurality of first annular grooves as taught Fedorovich to provide proper drainage of contaminants and having a single slot or plurality of slots is considered to be art equivalent.

10. Claim 56 rejected under 35 U.S.C. 103(a) as being unpatentable over Orlowski and Fedorovich.

Orlowski and Fedorovich disclose the claimed invention except the clearance between the stator and the shaft is 0.05 inches for each inch of shaft diameter. Discovering an optimum value of a result effective variable involves only routine skill in the art. In re Boesch, 617 F.2d 272, 205 USPQ 215 (CCPA 1980). Without the showing of some unexpected result. Since applicant has not shown some unexpected result the inclusion of this limitation is considered to

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be a matter of choice in design. It would have been obvious to one having ordinary skill in the art at the time the invention was made to have the clearance between the stator and the shaft be 0.05 inches for each inch of shaft diameter, to provide mechanical expedience and as a matter of design choice.

Response to Arguments

11. Applicant's arguments with respect to claims have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

12. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Vishal Patel whose telephone number is 571-272-7060. The examiner can normally be reached on 6:30am to 8:00pm.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Patricia L. Engle can be reached on 571-272-6660. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

VP
October 13, 2006

A handwritten signature in black ink, appearing to read 'Vishal Patel', with a stylized flourish at the end.

Vishal Patel
Primary Examiner
Tech. Center 3600